



AF/GP. 1713

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**United States Patent and Trademark Office**

Applicants:	J. Qin et al.	Docket	12,975
Serial No.:	08/759,108	Group:	1713
Filed:	December 2, 1996	Examiner:	M. Reddick
For:	ABSORBENT COMPOSITION	Date:	February 19, 1999

**Request For Reconsideration After Final Rejection**

BOX AF  
ASSISTANT COMMISSIONER FOR PATENTS  
Washington, D.C. 20231  
Sir:

In response to the Office Action mailed November 25, 1998, Applicants offer the following remarks to overcome the various grounds for rejection.

Claims 1, 2, 4-16 and 33 stand rejected under 35 U.S.C. 112, first paragraph as failing to provide an adequate written description in the use of the limitation "and wherein the mixture is not a molecular level dispersion of the acidic water-swellaable, water- insoluble polymer and the basic material".

However, support for this limitation can be found in Applicant's specification at page 11, lines 25-34, which reads as follows:

"In contrast to the above, it has been found that a single material or polymer, comprising both acidic and basic functional groups within its molecular structure, will not exhibit the desired absorbent properties described herein. This is believed to be because such acidic and basic functional groups within a single molecular structure will typically react with each other and might result in an over-crosslinked polymer structure. As such, it generally is not possible to prepare the absorbent composition of the present invention by preparing a copolymer from acidic and basic monomers or by preparing a molecular level dispersion, such as in an aqueous solution, of water-soluble acidic and basic material since during such copolymerization or molecular level dispersion the acidic and basic materials will typically react with each other and crosslink".

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In particular, the last sentence of the quoted paragraph provides sufficient antecedent basis for the rejected claim language. Accordingly the rejection based on the first paragraph of 35 U.S.C. 112 is believed to be improper.

Claims 1, 2, 4-16 and 33 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chmelir '471 for reasons of record. More particularly, the basis for rejection states: "Chmelir vehemently states that the present invention is characterized by the fact that component B (corresponding to the basic material per the claimed invention) is added in the form of a powder to the polymer gel of component A (corresponding to polymer component a) of the claimed invention) and, in order to obtain a powdery, pourable end product, is dried, if necessary, and ground. To this end, this clearly meets the limitations of being a non-molecular level of dispersion A and B)".

However, Applicant does not understand how one can assume that the components B and A in the Chmelir patent correspond to the basic material and the polymer component, respectively, of Applicants' claimed invention. It is submitted that there is no technical basis for such an assumption. In Chmelir, components B and A can be both acidic, or they can be both basic, or they can be both neutral, or component B can be acidic and component A can be neutral, or component B can be basic and component A can be neutral, or component B can be neutral and component A can be acidic, or component B can be neutral and component A can be basic. But none of the foregoing combinations anticipate or suggest Applicants' claimed invention, which requires a) an acidic polymer gel having at least 50% acidic groups and b) a basic material.

Viewed another way, Chmelir teaches a process of adding a solution, liquid or solid component B into component A, which is an end phase product of the polymerization. As an end phase product of the polymerization, component A is necessarily a swollen gel (superabsorbent polymerization always involves water, whether it is a suspension polymerization or a gel polymerization). Taking the case in which B is a solid, and assuming B and A are initially basic and acidic, respectively, the presence of water will initiate a neutralization reaction between components B and A. B and A may stay separate but will be converted into B' and A' due to the neutralization. This would not anticipate Applicants' claimed invention, which is an absorbent composition containing an acidic polymer and a basic material, not neutral materials. For example, if B is chitosan powder and it is applied onto the surface of a swollen polyacrylic acid gel (A), the presence of water will trigger ion exchanging between A and B which results in the polyacrylic acid gel (A) converting to polyacrylate gel (A') and, at the same time, results in chitosan (B) converting to chitosan salt (B'). The polyacrylate (A') is no longer an acidic polymer gel (A' is neutral) and chitosan salt (B') is no longer a basic material (B' is neutral). Consequently, the resulting mixture comprising A' and B' does not anticipate or suggest Applicants' invention.

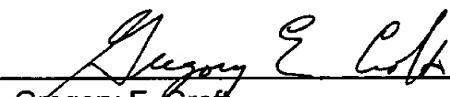
Also, Applicants' invention requires an acidic polymer component having a pKa from about 2 to about 12 in order to achieve desired slow fluid absorption rate. Chmelir does not teach or suggest this feature.

Therefore, for all of the foregoing reasons, Applicants believe their claimed invention is patentable over the Chmelir reference. Accordingly, reconsideration of the Final Rejection is requested.

The undersigned may be reached at: (920) 721-3616.

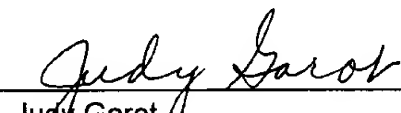
Respectfully submitted,

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#### CERTIFICATE OF MAILING

I, Judy Garot, hereby certify that on February 19, 1999 this document is being deposited with the United States Postal Service as first-class mail, postage prepaid, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

By:   
Judy Garot